AUTOMATED MICROFABRICATION-BASED BIODETECTOR

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Abstract of the Disclosure

A system, apparatus, and method for processing a sample for chemical and/or biological analysis, and detecting one or more target substances. A first system of microfabricated components includes at least a reservoir and a channel, and a second system of detection components including at least a lens. The lens is focused on a sensing platform of the first system. The sensing platform is coupled to the reservoir by the channel. Various types of detection systems can be utilized with the present invention including fluorescence detection systems with a laser that is positioned to illuminate a sample in the sensing platform. The microfabricated components include one or more pumps, valves, mixers, and filters. A thermoelectric cooler can be positioned to control the temperature of at least one of the microfabricated components. A variety of component configurations can be implemented, and a variety of different processes can be performed, depending on the configuration of components. The device can also be networked with other information processing devices and share data regarding substances detected from the sample.

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